REMARKS

The Office Action dated May 13, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-38 are currently pending in the application.

Applicants thank the Examiner for the allowance of claims 19-21, 29-34, and 36-38.

Claims 1-38 have been amended to more particularly point out and distinctly claim the subject matter of the invention. New claims 39-41 have been added. No new matter has been added. Therefore, claims 1-41 are respectfully submitted for consideration.

Applicants submit that the amendments to claims 19-21, 29-34, and 36-38 do not affect the patentability of the claims. Therefore, Applicants respectfully submit that claims 19-21, 29-34, and 36-38 are in condition for allowance.

The Office Action rejected claims 1, 2, 4-7, 11, 22-25, and 35 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Matsuoka, *et al.* (U.S. Patent No. 6,418,173) ("Matsuoka") in view of Shearer, III. (U.S. Patent Publication No. 2003/0063682) ("Shearer"). The Office Action took the position that Matsuoka discloses all the elements of the claims with the exception of "generating a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal," with respect to independent claim 1, "where the filter is a pulse shaping filter," with respect to independent claim 2, and "generating a

limited transmissible signal by reducing the error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal," with respect to independent claim 35. The Office Action then cited Shearer as allegedly curing the deficiencies of Matsuoka. (See Office Action at section 1, pages 11-13 and 15.) The rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claims 4-10 are dependent, recites a method, which includes determining a limiting signal from a transmissible signal filtered using a pulse shaping filter, and determining an error signal using the transmissible signal and the limiting signal. The method further includes generating a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal.

Claim 2, upon which claims 11-14 are dependent, recites a method, which includes determining a limiting signal from a transmissible signal filtered using a pulse shaping filter, and determining an error signal using the transmissible signal and the limiting signal. The method further includes orthogonalizing the error signal filtered using the filter matched to a chip pulse waveform, and generating a limited transmissible signal by reducing the orthogonalized error signal from the transmissible signal.

Claim 35, upon which claims 22-28 are dependent, recites an apparatus, which includes a limiting determiner configured to determine a limiting signal from a transmissible signal filtered using a pulse shaping filter, and an error determiner configured to determine an error signal using the transmissible signal and the limiting

signal. The apparatus further includes a generator configured to generate a limited transmissible signal by reducing the error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal, and a filter configured to filter the limited transmissible signal using the pulse shaping filter.

Claim 39 recites a computer program, embodied on a computer-readable medium, for controlling a processor to implement a method. The method includes determining a limiting signal from a transmissible signal filtered using a pulse shaping filter, and determining an error signal using the transmissible signal and the limiting signal. The method further includes generating a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal.

Claim 40 recites a computer program, embodied on a computer-readable medium, for controlling a processor to implement a method. The method includes determining a limiting signal from a transmissible signal filtered using a pulse shaping filter, and determining an error signal using the transmissible signal and the limiting signal. The method further includes orthogonalizing the error signal filtered using the filter matched to a chip pulse waveform, and generating a limited transmissible signal by reducing the orthogonalized error signal from the transmissible signal.

As will be discussed below, the combination of Matsuoka and Shearer fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Matsuoka generally describes a nonlinear distortion compensating technique in a transmission apparatus for digital radio communications. Amplitude limiting section 103 limits the amplitude of transmission signal 113 in accordance with the amplitude limiting coefficient 115 and outputs an amplitude limiting signal 116 thus obtained. Nonlinear distortion compensating section 104 compensates nonlinear distortions of amplifier 109 almost as in the description with reference to FIG. 10 in the conventional example. That is, the second amplitude calculating section 105 calculates limiting amplitude information 117 from amplitude limiting signal 116 and outputs it. Compensation table 106 outputs distortion compensation coefficient 118 in response to limiting amplitude information 117. Distortion compensating section 107 calculates distortion compensation signal 119 on the basis of distortion compensation coefficient 118 and amplitude limiting signal 119. (See Matsuoka at Abstract and col. 5, lines 12-37.)

Shearer generally describes a constrained-envelope digital communications transmitter which places constraints on the envelope of a spectrally constrained, digitally modulated communication signal to lower peak-to-average power ratio without allowing significant spectral regrowth. Shearer generally describes using a pulse-shaped filter to shape and spread the information conveyed in each unit interval of modulated data over many unit intervals in a manner that dramatically reduces the spectrum required to transmit the information but permits efficient recovery of the information without significant intersymbol interference. (See Shearer at Abstract and paragraph 0002.)

Applicants respectfully submit that Matsuoka and Shearer, whether considered individually or in combination, fail to disclose, teach, or suggest, all of the elements of the present claims. For example, the combination of Matsuoka and Shearer fails to disclose, teach, or suggest, at least, "*determining an error signal using the transmissible signal and the limiting signal*," as recited in independent claim 1, and similarly recited in independent claims 2, 35, and 39-40.

As a threshold matter, Applicants present a list of the relevant steps disclosed in Matsuoka and the relevant citations:

- Amplitude limiting section 103 limits the amplitude of transmission signal 113 and outputs an amplitude limiting signal 116. (See Matsuoka at col. 5, lines 13-16);
- Second amplitude calculating section 105 calculates limiting amplitude information 117 from amplitude limiting signal 116 and outputs it. (See Matsuoka at col. 5, lines 26-28);
- Compensation table 106 outputs distortion compensation coefficient 118 in response to limiting amplitude information 117. (See Matsuoka at col. 5, lines 28-30); and
- Distortion compensating section 107 calculates distortion compensation signal 119 on the basis of distortion compensation coefficient 118 and amplitude limiting signal 119. (See Matsuoka at col. 5, lines 30-33.)

In the "Response to Arguments" section, the Office Action stated that "applicant argues ... that the distortion compensation section 107 does not use the transmission signal 116 to generate distortion compensation signal 119). (See Office Action at page 2.) Applicants respectfully submit that is not what Applicants argued in the previous response, filed on March 7, 2008. In the Previous Response, Applicants argued that the distortion compensation section 107 does not use the **transmission signal 113** to generate the distortion compensation signal 119. (See Previous Response at page 5.)

The Office Action further stated, in the "Response to Arguments" section, that the signal is generated using amplitude limiting signal 116, which is merely a transmission signal with limited amplitude, and therefore, signal 116 is interpreted to be a transmissible signal. (See Office Action at page 3.) Applicants respectfully submit that this interpretation is not reasonable given the plain language of the claims. For example, independent claim 1 recites "a transmissible signal," and "a limited transmissible signal;" thus, making clear that "transmissible signal," and "limited transmissible signal" are distinct terms. Thus, Applicants respectfully submit that the amplitude limiting signal 116 in Matsuoka is not a transmissible signal.

The Office Action further stated, in the "Response to Arguments" section, that distortion compensation signal 119 is generated from a distortion compensation coefficient 118, which is interpreted to be a limiting signal. (See Office Action at page 3.) Applicants respectfully submit that this interpretation is also not reasonable given the plain language of the claims. For example, independent claim 1 recites that a limiting

signal is determined from a transmissible signal. However, distortion compensation coefficient 118 is generated in response to limiting amplitude information, which is generated from amplitude limiting signal 116. As discussed above, the amplitude limiting signal is not a transmissible signal. Thus, Applicants respectfully submit that the distortion compensation coefficient 118 is not a limiting signal.

Furthermore, regarding "error signal," in the Previous Response, Applicants argued that the distortion compensating section 107 of Matsuoka does not generate an error signal. Rather, the distortion compensating section 107 generates a distortion compensation signal 119, which is later used by a quadrature modulating section 108 to modulate to radio frequency (RF) signals, which are signals 119 of carrier band. Applicants further argued that the error signal in the method in claim 1, and in similar limitation of claims 2 and 35, is not used subsequently to modulate RF signals, and that the distortion compensation signal in Matsuoka is not the same as the error signal in the claims. (See Previous Response at page 6.) In the "Response to Arguments" section, the Office Action agreed that the distortion compensation signal 119 as taught by Matsuoka is later used by a quadrature modulating section 108 to modulate RF signals, and agreed that the error signal in claim 1 is not used subsequently to modulate RF signals. However, the Office Action took the position that the features upon which Applicants rely (i.e. the function of the error signal) are not recited in the rejected claim, and that although claims are interpreted in light of the specification, limitations from the specification are not read into the claims. (See Office Action at pages 3-4.)

Applicants respectfully submit that the arguments in the Previous Response do not rely on the function of the error signal, as characterized by the Office Action. Instead, the arguments in the Previous Response rebut the Office Action's contention that the distortion compensation signal is analogous to an error signal; a feature which is recited in the claims. In other words, because the distortion compensation signal in Matsuoka performs a distinct function than the "error signal," it is unreasonable to interpret the distortion compensation signal as the "error signal," in light of the claims. Thus, Applicants respectfully submit that the distortion compensation signal 119 is not an error signal.

Furthermore, Shearer does not cure the deficiencies of Matsuoka. There is no disclosure, or suggestion, in Shearer of determining an error signal using the transmissible signal and the limiting signal.

Finally, to the extent that the arguments in the Previous Response are not disclosed above, they are incorporated herein by reference.

Therefore, for at least the reasons discussed above, the combination of Matsuoka and Shearer fails to disclose, teach, or suggest, all of the elements of independent claims 1-2, 35, and 39-40. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claims 4-7 depend upon independent claim 1. Claim 11 depends upon independent claim 2. Claims 22-25 depend upon independent claim 35. Thus, Applicants respectfully submit that claims 4-7, 11, and 22-25 should be allowed for at

least their dependence upon independent claims 1-2 and 35, and for the specific elements recited therein.

The Office Action rejected claims 3, 15, and 18 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Matsuoka in view of Uta, *et al.* (U.S. Patent No. 6,144,694) ("Uta"), and further in view of Shearer. The Office Action took the position that Matsuoka discloses all the elements of the claims with the exception of "combining at least two signals modulated on different carriers to a combination signal," and "generating limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal," with respect to independent claim 3, and "means for filtering the limited transmissible signals using the pulse-shaping filter," with respect to independent claim 18. The Office Action then cited Uta and Shearer as allegedly curing the deficiencies of Matsuoka. (See Office Action at pages 15-17.) The rejection is respectfully traversed for at least the following reasons.

Claim 3, upon which claims 15-17 are dependent, recites a method, which includes combining at least two signals modulated on different carriers to a combination signal, and determining a limiting signal from the combination signal filtered using a pulse shaping filter. The method further includes determining an error signal using the combination signal and the limiting signal. and dividing the error signal onto different carriers in a predetermined manner. The method further includes generating limited

transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal.

Claim 18 recites an apparatus, which includes means for determining a limiting signal from a transmissible signal filtered using a pulse shaping filter, and means for determining an error signal using the transmissible signal and the limiting signal. The apparatus further includes means for generating a limited transmissible signal by reducing the error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal, and means for filtering the limited transmissible signal using the pulse shaping filter.

Claim 41 recites a computer program, embodied on a computer-readable medium, for controlling a processor to implement a method. The method includes combining at least two signals modulated on different carriers to a combination signal and determining a limiting signal from the combination signal filtered using a pulse shaping filter. The method further includes determining an error signal using the combination signal and the limiting signal and dividing the error signal onto different carriers in a predetermined manner. The method further includes generating limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal.

As will be discussed below, the combination of Matsuoka, Uta, and Shearer fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

The descriptions of Matsuoka and Shearer, as discussed above, are incorporated herein. Uta generally describes a transmitting apparatus for code division multiplexed signals capable of reducing the transmission back-off without creating a spurious. FIG. 8 of Uta describes a conventional transmitting apparatus used for the spread spectrum communication and has a transmitter section designed such that transmission information 11-*i* of multiple channels are scrambled so that the multiplexed signal 21 resulting from the composition of the multiple channels has characteristics close to the white noise as shown in FIG. 8. (See Uta at col. 2, lines 15-18 and Figure 8.)

Applicants respectfully submit that Matsuoka, Shearer, and Uta, whether considered individually or in combination, fail to disclose, teach, or suggest, all of the elements of the present claims. For example, the combination of Matsuoka, Shearer, and Uta fails to disclose, teach, or suggest, at least, "*dividing the error signal onto different carriers in a predetermined manner*," as recited in independent claim 3, and similarly recited in independent claim 41; and "*means for determining an error signal using the transmissible signal and the limiting signal*," as recited in independent claim 18.

In the Previous Response, Applicants argued that Matsuoka discloses that the quadrature modulating section 108 modulates distortion compensation signals 119 to radio frequency signals 120. Applicant further argued that the discussion of modulating distortion compensation signals to radio frequency signals does not disclose, teach, or suggest dividing an error signal onto different carriers in a predetermined manner. Applicants further argued that Matsuoka is silent as to whether its modulation of

distortion compensation signals involves any division of an error signal onto different carriers, and is silent as to whether the modulation is carried out in a predetermined manner or not. Accordingly, Applicants argued that Matsuoka does not disclose, teach or suggest, at least, "*dividing the error signal onto different carriers in a predetermined manner*" as recited in independent claim 3, and that Shearer and Uta fails to cure the deficiencies of Matsuoka. (See Previous Response at page 12.)

In the "Response to Arguments" section, the Office Action stated that "[the] Examiner agrees, however the argument is moot in view of the new grounds of rejection." (See Office Action at page 7.) However, the new rejection appears to continue to allege that Matsuoka discloses dividing the error signal onto different carriers in a predetermined manner. (See Office Action at section 2, page 16.) Thus, Applicants respectfully submit that Matsuoka fails to disclose, or suggest, dividing the error signal onto different carriers in a predetermined manner because the discussion in Matsuoka of modulating distortion compensation signals to radio frequency signals does not disclose, or suggest, dividing an error signal onto different carriers in a predetermined manner. Applicants further submit that Shearer and Uta fail to cure the deficiencies of Matsuoka. Furthermore, if the new rationale for the rejection has been omitted from the Office Action, Applicants respectfully request a new non-final Office Action clarifying the status of claims 3, 15, and 18.

Regarding "*means for determining an error signal using the transmissible signal and the limiting signal,*" as recited in independent claim 18, while each of the claims

have their own scope, Applicants respectfully submit that the combination of Matsuoka and Shearer fail to disclose, or suggest, this limitation for similar reasons as to why the combination of Matsuoka and Shearer fail to disclose, or suggest "*determining an error signal using the transmissible signal and the limiting signal*," as recited in independent claim 1. Furthermore, Uta fails to cure the deficiencies of Matsuoka and Shearer, as Uta fails to disclose, or suggest, means for determining an error signal using the transmissible signal and the limiting signal.

Finally, to the extent that the arguments in the Previous Response are not disclosed above, they are incorporated herein by reference.

Therefore, for at least the reasons discussed above, the combination of Matsuoka, Shearer, and Uta fails to disclose, teach, or suggest, all of the elements of independent claims 3, 18, and 41. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claim 15 depends upon independent claim 3. Thus, Applicants respectfully submit that claim 15 should be allowed for at least its dependence upon claim 3, and for the specific elements recited therein.

The Office Action rejected claims 8, 9, 26, and 27 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Matsuoka and Shearer, and further in view of Piirainen, *et al.* (U.S. Patent Publication No. 2003/0219079) ("Piirainen"). The Office Action took the position that the combination of Matsuoka and Shearer discloses all the elements of the claims with the exception of "the threshold value being set bearing in

mind the maximum value predetermined for an error vector magnitude," with respect to claims 8 and 26; and "the threshold value being set bearing in mind the maximum value predetermined for a peak code domain error," with respect to claims 9 and 27. The Office Action then cited Piirainen as allegedly curing the deficiencies of Piirainen. (See Office Action at section 3, pages 18-19.) The rejection is respectfully traversed for at least the following reasons.

The descriptions of Matsuoka and Shearer, as discussed above, are incorporated herein. Piirainen generally describes a method for restricting a signal in a radio transmitter. The method includes setting a threshold value and a value sample interval for the signal, searching the modulated signal for maximum values exceeding the threshold value, determining the instant of occurrence of the maximum value that exceeded the threshold value, searching the modulated signal for additional sample values exceeding the threshold value at a distance of one or more value sample intervals from the moment of occurrence of at least one maximum value, forming a signal that represents the part of the modulated signal that exceeds the threshold value, and subtracting from the modulated signal the formed signal representing the part that exceeds the threshold value. (See Piirainen at Abstract.)

Claims 8-9 and 26-27 depend upon independent claims 1 and 35, respectively. As discussed above, the combination of Matsuoka and Shearer does not disclose, teach, or suggest all of the elements of independent claims 1 and 35. Furthermore, Piirainen does not cure the deficiencies in Matsuoka and Shearer, as Piirainen also does not disclose,

teach, or suggest, at least, "*determining an error signal using the transmissible signal and the limiting signal*," as recited in independent claim 1, and similarly recited in independent claim 35. Thus, the combination of Matsuoka, Shearer, and Piirainen does not disclose, teach, or suggest all of the elements of claims 8-9 and 26-27. Additionally, claims 8-9 and 26-27 should be allowed for at least their dependence upon independent claims 1 and 35, and for the specific elements recited therein.

The Office Action rejected claims 10 and 28 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Matsuoka and Shearer, and further in view of Pierzga, *et al.* (U.S. Patent Publication No. 2002/0114270) ("Pierzga"). The Office Action took the position that the combination of Matsuoka and Shearer discloses all the elements of the claims with the exception of "the threshold value being set so as to obtain the desired Peak-to-Mean Ratio, Peak-to-Average Ratio, Crest factor of the power or amplitude." The Office Action then cited Pierzga as allegedly curing the deficiencies of Matsuoka and Shearer. (See Office Action at section 4, pages 19-20.) The rejection is respectfully traversed for at least the following reasons.

The descriptions of Matsuoka and Shearer, as discussed above, are incorporated herein. Pierzga generally describes an OFDM communication system which includes broadcast providers, each stations, repeater satellites and receivers. Pierzga discloses that two channels are provided, on the in phase and quadrature components of each subcarrier. (See Pierzga at Abstract.)

Claims 10 and 28 depend upon independent claims 1 and 35, respectively. As discussed above, the combination of Matusoka and Shearer does not disclose, teach, or suggest all of the elements of independent claims 1 and 35. Furthermore, Pierzga does not cure the deficiencies in Matsuoka and Shearer, as Pierzga also does not disclose, teach, or suggest, at least, "*determining an error signal using the transmissible signal and the limiting signal*," as recited in independent claim 1, and similarly recited in independent claim 35. Thus, the combination of Matsuoka, Shearer, and Pierzga does not disclose, teach, or suggest all of the elements of claims 10 and 28. Additionally, claims 10 and 28 should be allowed for at least their dependence upon independent claims 1 and 35, respectively, and for the specific elements recited therein.

The Office Action rejected claim 13 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Matsuoka and Shearer, and further in view of Currivan, *et al.* (U.S. Patent No. 7,110,434) ("Currivan"). The Office Action took the position that the combination of Matsuoka and Shearer discloses all the elements of the claims with the exception of "wherein unused codes are utilized in orthogonalization." The Office Action then cited Currivan as allegedly curing the deficiencies of Matsuoka and Shearer. (See Office Action at section 5, page 21.) The rejection is respectfully traversed for at least the following reasons.

The descriptions of Matsuoka and Shearer, as discussed above, are incorporated herein. Currivan generally describes a method and apparatus for performing weighted linear combination selectively with each of the input spread signals in a multiple access

communication system. The predetermined number of unused codes is always the same in each implementation. Alternatively, the predetermined number of unused codes is selected from within a reordered code matrix using knowledge that is shared between the two ends of a communication system, such as between the CMs and a CMTS. (See Currivan at Abstract).

Claim 13 depends upon independent claim 2. As discussed above, the combination of Matsuoka and Shearer does not disclose, teach, or suggest all of the elements of independent claim 2. Furthermore, Currivan does not cure the deficiencies in Matsuoka and Shearer, as Currivan also does not disclose, teach, or suggest, at least, "*determining an error signal using the transmissible signal and the limiting signal*," as recited in independent claim 2. Thus, the combination of Matsuoka, Shearer, and Currivan does not disclose, teach, or suggest all of the elements of claim 13. Additionally, claim 13 should be allowed for at least its dependence upon independent claim 2, and for the specific elements recited therein.

The Office Action rejected claim 14 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Matsuoka and Shearer, and further in view of Zehavi (U.S. Patent No. 5,602,833) ("Zehavi"). The Office Action took the position that the combination of Matsuoka and Shearer discloses all the elements of the claims with the exception of "wherein codes used at a lower modulation level are utilized in orthogonalization." The Office Action then cited Zehavi as allegedly curing the

deficiencies of Matsuoka and Shearer. (See Office Action at section 6, page 21.) The rejection is respectfully traversed for at least the following reasons.

The descriptions of Matsuoka and Shearer, as discussed above, are incorporated herein. Zehavi generally describes a method and apparatus for generating orthogonally encoded communication signals for communication system subscribers using multiple orthogonal functions for each orthogonal communication channel. Digital data symbols for signal recipients are M-ary modulated using at least two n-length orthogonal modulation symbols. These symbols are provided by a modulation symbol selector (124) typically from one or more code generators (126, 128), and the modulation is such that M equals a product of a total number of orthogonal functions and the number used to generate individual modulation symbols. Each group of log M encoded data symbols from data processing elements (100, 102) are mapped into one modulation symbol using the modulation symbol selection element (124) according to their binary values. The energy values are mapped into energy metric data using a dual maximum metric generation process. Each demodulator outputs M energy values representing each of the M mutually orthogonal modulation symbols, which are then combined into a single set of M energy values. (See Zehavi at Abstract.)

Claim 14 depends upon independent claim 2. As discussed above, the combination of Matsuoka and Shearer does not disclose, teach, or suggest all of the elements of independent claim 2. Furthermore, Zehavi does not cure the deficiencies in Matsuoka and Shearer, as Zehavi also does not disclose, teach, or suggest, at least,

"*determining an error signal using the transmissible signal and the limiting signal,*" as recited in independent claim 2. Thus, the combination of Matsuoka, Shearer, and Zehavi does not disclose, teach, or suggest all of the elements of claim 14. Additionally, claim 14 should be allowed for at least its dependence upon independent claim 2, and for the specific elements recited therein.

The Office Action rejected claims 16 and 17 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Matsuoka, Uta, and Shearer, and further in view of Billsberry (U.S. Patent Publication No. 2003/0001669) ("Billsberry"). The Office Action took the position that the combination of Matsuoka, Uta, and Shearer discloses all the elements of the claims with the exception of "wherein the error signal is divided equally between different carriers," with respect to claim 16, and "wherein the error signal is divided between different carriers in relation to the power or amplitude values to be clipped," with respect to claim 17. The Office Action then cited Billsberry as allegedly curing the deficiencies of Matsuoka, Uta, and Shearer. The rejection is respectfully traversed for at least the following reasons.

The descriptions of Matsuoka, Uta, and Shearer, as discussed above, are incorporated herein. Billsberry generally describes a method and apparatus for utilizing the distortion generated within a portion of a balanced amplifier to cancel the distortion generated within the whole balanced amplifier. Samples of the signal and distortion from part of the balanced amplifier are combined with a reference signal such that the two signals destructively combine leaving the distortion from the sampled part of the

balanced amplifier. The gain and phase of the distortion is then adjusted so that when it is coupled into the input of the other part of the balanced amplifier the distortion generated by both parts of the balanced amplifier is cancelled. (See Billsberry at Abstract.)

Claims 16 and 17 depend upon independent claim 3. As discussed above, the combination of Matsuoka, Uta, and Shearer does not disclose, teach, or suggest all of the elements of independent claim 3. Furthermore, Billsberry does not cure the deficiencies in Matsuoka, Uta, and Shearer, as Billsberry also does not disclose, teach, or suggest, at least, "*dividing the error signal onto different carriers in a predetermined manner*," as recited in independent claim 3. Thus, the combination of Matsuoka, Uta, Shearer, and Billsberry does not disclose, teach, or suggest all of the elements of claims 16 and 17. Additionally, claims 16 and 17 should be allowed for at least their dependence upon independent claim 3, and for the specific elements recited therein.

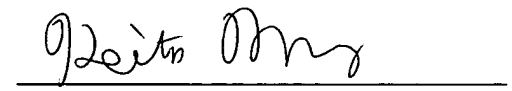
The Office Action indicated that claim 12 would be allowable if rewritten to include all of the limitations of the base claims and any intervening claims. Applicants respectfully submit that they have not amended claim 12 to rewrite the claim in independent form including all of the limitations of the base claim and any intervening claims, because Applicants have addressed the formal rejections to independent claim 2, which claim 12 depends from, above. Accordingly, it is respectfully requested that claim 12 be allowed.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art references fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-41 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Keith M. Mullervy
Registration No. 62,382

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-6212
Telephone: 703-720-7800
Fax: 703-720-7802

KMM:dlh/skl